BMH RY15-19 TRI Corrections 112420.xisx,ED Treatment

Ethylene Oxide Treatment		In this sheet, air emissions and the quantity treated on site is calculated for Catalytic oxidizer: Emissions from catalytic oxidizers are estimated based or 0.142 pounds per hour of emissions for 2015-2018. Emissions for 2019 and from MESHAP Subpart O standard for aeration from weets. This is a change indication of potential higher emissions in 2019 vs. 2016 emission testing of some control of all the control of the control of the control of the control of the Scrubbert Emissions from the scrubber are estimated based on assuming all	n 2016 testing that indicates based on the 1 ppm figure from 2018 RY based on data, but without readily					
Ethylene Oxide Use	2016	Comments	2017	Comments	2018	Comments	2019	Comments
Ethylene Oxide Use	354,000 lb		356,800 lb		378,000 lb		395,600 lb	
SN-116 and SN-117 Catalytic Oxidizers		Comments		Comments		Comments		Comments
Hours of Operation	8,784 hr/yr	Commence	8,760 hr/yr	Comments	8,760 hr/yr	Comments	8,760 hr/yr	commend
Oxidizer A - Ethylene Oxide Emissions Oxidizer B - Ethylene Oxide Emissions		Note: no change from reported emissions from the catalytic oxidizers. Calculations taken from file "PlantVOCHAPhew_v1.0"		Note: no change from reported emissions from the catalytic oxidizers. Calculations taken from file "Plant/VOCHAPhew_V1.0"		Note: no change from reported emissions from the catalytic oxidizers. Calculations taken from file "Plant/OCHAPnew_v1.0"	1 ppm 25,828 scfm 0.177 lb/hr Ethylene Oxide Emissions 1 ppm 25,351 scfm 0.174 lb/hr Ethylene Oxide Emissions	ppm figure from NESHAP Subpart O standard for aeration room vents.     Change from 2018 RY based on indication of potential higher emissions in 2019 vs. 2016 emissions testing data, but without readily available data to calculate.
							0.351 lb/hr Ethylene Oxide Emissions	
Ethylene Oxide Treated in Oxidizers & Scrubbers	337,341 lb Ethylene		341,355 lb Ethylene		360,966 lb Ethylene		376,085 lb Ethylene Oxide	
Total Oxidizer Emissions	1,423 lb/yr Ethyle	ne Oxide Emissions, total both oxidizers	1,419 lb/yr Ethyle	ne Oxide Emissions, total both oxidizers	1,419 lb/yr Ethyl	ene Oxide Emissions, total both oxidizers	3,077 lb/yr Ethylene Oxide Emissions, to	tal both oxidizers
SN-101 Scrubber		Comments		Comments		Comments		Comments
Pre-Scrubber Ethylene Oxide Scrubber Control Scrubber Emissions	354,000 lb Ethylene 99.00% 3,540 lb Ethylene	99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.	356,800 lb Ethylene 99.00% 3,568 lb Ethylene	99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for previous year importing.	378,000 lb Ethyleni 99.00% 3,780 lb Ethyleni	99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for previous year importing.	395,600 lb Ethylene Oxide 99.00% 3,956 lb Ethylene Oxide	99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.
General Fugitive Emissions		Comments		Comments		Comments		Comments
Ethylene Oxide Use General Fugitive Emissions	354,000 lb 0.5% 1,770 lb	EPA factor from Federal Register, 12/12/2019. Different factor used in previous years. This is a change from prior calculations that used an emission factor of 1% of emissions.	356,800 lb 0.5% 1,784 lb	EPA factor from Federal Register, 12/12/2019. Different factor used in previous years. This is a change from prior calculations that used an emission factor of 1% of emissions.	378,000 lb 0.5% 1,890 lb	EPA factor from Federal Register, 12/12/2019. Different factor used in previous years. This is a change from prior calculations that used an emission factor of 1% of emissions.	395,600 lb 0.5% 1,978 lb	EPA factor from Federal Register, 12/12/2019. Different factor used in previous years. This is a change from prior calculations that used an emission factor of 1% of emissions.
SN-119 Sterilization Chamber #7 Rear Chamber Exhaust		Comments		Comments		Comments		Comments
Ethylene Oxide Vented Per Batch	2.23 lb	From 2014 ERM calculations	2.23 lb	From 2014 ERM calculations	2.23 lb	From 2014 ERM calculations	2.23 lb	From 2014 ERM calculations
2019 Batches Ethylene Oxide Emissions	1 batches 2 lb	From K. Steelman 6/24/2020 data	51 batches 114 lb	From K. Steelman 6/24/2020 data	195 batches 435 lb	From K. Steelman 6/24/2020 data	181 batches 404 lb	From K. Steelman 6/24/2020 data
Ethylene Oxide Emissions	2 10		114 ID		435 ID		404 IB	
Total Ethylene Oxide Emissions		Comments		Comments		Comments		Comments
			3,568 lb		3,780 lb		3,956 lb	
SN-101 Scrubber	3,540 lb							
SN-116 and SN-117 CO	1,423 lb		1,419 lb		1,419 lb		3,077 lb	
			1,419 lb 114 lb 1,784 lb		1,419 lb 435 lb 1.890 lb		3,077 lb 404 lb 1,978 lb	

	Α	В	С	D	Е		F	G	Н		1	J	К	1 1	М
1	Inputs & Summa			ט			<u> </u>	_		xide Emissio	ns (lhs)	2019	2020 Period 1	2020 Pd. 2-7	2020
2	mputs & summe	• 7							SN-101 Scr		iia (iua)	3,795	505	2020 Pd. 2-7 654	1,159
3										SN-117 CO		3,077	4,244	268	4,511
4	1									ilization Cha	mber #7	404	75	4	78
5									General Fu		IIIbCI #7	1,897	327	1,725	2,052
6										ne Oxide Em	nissions	9,173	5,151	2,650	7,801
7												5,2.5	3,222	2,000	.,,,,,
8	Ethylene Oxide Use fr	rom Dave Miller											Quantity Trea	ted on-Site (lbs)	402,677
9	Period	EO Use (lbs)	1										•		,
10	1		7	Period 1 (1/1-	-2/13) opei	rated wit	h high er	nissions fror	n Cat Ox units						
11	2	59,570	o o							s after cham	ber #7 and after the	e scrubber			
12	3	73,574	1	Period 3 (4/2	3-6/24) op	erated w	vith one	O after one	CatOx and dry	beds after th	ne other CatOx, scr	ubber, and chamber	#7		
13	4	29,193	3	Period 4 (6/2	5-7/12) op	erated w	ith dry b	eds after Cat	Ox and chamb	er 7 and dry	beds after the scru	bber			
14	5	36,294	1	Period 5 (7/1	3-8/4) opei	rated wit	h dry be	ds after CatO	x and chambe	r 7 and a TO	after the scrubber				
15		6 23,670 Period 6 (8/5-8/24) operated as period 5 did but with new cataly													
16															
17	2020 Total	410,477	7												
18															
	EO use calculated fror	n JDE system. Each tar	nk used c	contains 400 po	ounds of et	hylene o	xide. On	y 394.5 pou	nds of each is	sed per EO s	upplier.				
20	Thursday 6	nlik 0 n													
21	Timeline from Kevin I		er												
22	Operation shut down														
23 24	Operation started up		china						Acc:	•-					
25	1	st CatOx units for polised post Scrubber for p							Assumptio		d 77 10/ EO to cerul	bber and 22.9% to c	atalutic ovidizore n	or Tim Stafford	
26	The state of the s	ed for Vessel 7 rear ch	_	vhaust								entrations per text b		er riin Stanoru	
27	South TO replaced wit				3/20				-		are 98% efficient p		ox below.		
28	North TO replaced wit								THEITHAI O	1012013 (103)	are 50% emerene p	er manadactarer			
29	Dry beds post scrubbe	•	. ,		5,20						Efficiencies estim	astad by Dry Rad Cr	unnlior		
30	Catalyst in CatOx repla										Efficiencies estin	nated by Dry Bed Su	ipplier		
31	,,			,							99% at > 10 ppm	v inlet			
32											98% at 5-10 ppm				
33	1										95% at 1-4 ppmv				
34											90% at 0.5-0.9 pp				
35											75% at 0.2-0.4 pp 50% at 0.05-0.1 p				
36											30% at 0.03-0.1 p	phily inlet			
37											Supplier contact:				
38											Randal Nicolli, P.I	E.			
39											Engineering Man				
40											Advanced Air Tec				
41											300 Sleeseman D Corunna, MI 488				
42											(989) 743-5544				
43 44	-										rnicolli@advairte	ch.com			
45	1														
46	1														
47	1														
48	1														
49	1														
	EtO Emissions - Pi	revious Estimate	2020	2021											
51	SN-101 Scrubber		759		1										
	SN-116 and SN-117	CO	4,564		1										
53	SN-119 Sterilization	Chamber #7	80		1										
	General Fugitives		2,029												
55	Total Ethylene Oxid	e Emissions	7,432	2,266											
56					-										
57	]														
	EtO Emissions - Co	urrent Estimate	2020		20	)22									
	SN-101 Scrubber		1,159			64									
	SN-116 and SN-117		4,511			11									
	SN-119 Sterilization	Chamber #7	78			0									
	General Fugitives	<u> </u>	2,052			0									
63	Total Ethylene Oxid	e Emissions	7,801	1,632		75									

	A B	С	D	T E	T F	G	н Г	1 .1	К
1	χ , , , , , , , , , , , , , , , , , , ,				<u> </u>	, J			
2	<b>Baxter Healthcare Toxic</b>	Release	Invent	ory	Period 1 (1	/1-2/13) operated with	high emissions fro	m Cat Ox unit	6
3					start	1/1/20 0:00	Days	43.99999	
4	Site Specific Factors	2020 - P	eriod 1		end	2/13/20 23:59	Hours	1056	
5									
	Ethylene Oxide Data					Comments			1
	Ethylene Oxide Used		7 lb/period						
9	Ethylene Oxide Mol. Wt.	44.05	b/lbmol						l
	SN-116 and SN-117 Catalytic Oxidizers					Comments			
11	Hours of Operation	1,056	hr/period						1
13									
-11									
15	So. Oxidizer - Ethylene Oxide Emissions	12.47	ppm						
16	,	28,400				Source for the co	oncentrations and f	lowrates is	
17		2.431	l lb/hr Ethylen	e Oxide Emiss	ions	data provided by		iowiales is	
-10						uata provided by	LCI1.		
10	No. Oxidizer - Ethylene Oxide Emissions	7 5	5 ppm						
20	140. Oxidizer Ethylene Oxide Emissions	30,850							
21		,		e Oxide Emiss	ions				
22		1.000	,,	0 0/1100					
	Total Oxidizer Emissions	4.019	b/hr Ethylen	e Oxide Emiss	ions				
24	Total Oxidizer Emissions	4,244	lb/period Eth	ylene Oxide					
25									•
_	SN-101 Scrubber					Comments			-
27	Pre-Scrubber Ethylene Oxide	50,490	) Ib Ethylene (	Oxide					
							NESHAP Subpart (		
							nber vents. Same f	actor as used	
	Scrubber Control	99.00%	)			for 2018 RY.			
29 30	Scrubber Emissions	EOE	5 lb/period Eth	vlono Ovido					
31	Scrubber Emissions	303	b ib/period Eti	yierie Oxide					J
	General Fugitive Emissions					Comments			
	Ethylene Oxide Used	65,487	7 lb						Ī
	. ,	55, 107	-			FPΔ factor from	Federal Register, 1	2/12/2010	
	Constant Frontière Facilities	0 =0/					ised in previous ye		
35	General Fugitive Emissions	0.5% 327				Director ractor t	acca iii picvious yc	u. 5.	
36		327	יוט						J
	SN-119 Sterilization Chamber #7 Rear Char	nher Fyhaust				Comments			
	Ethylene Oxide Vented Per Batch	2.23	3 lb			From 2014 ERM	calculations		1
	Batches		batches						
	Ethylene Oxide Emissions		5 lb						
41	·								•
42	Total Ethylene Oxide Emissions					Comments			_
	SN-101 Scrubber	505							1
	SN-116 and SN-117 CO	4,244							
	SN-119 Sterilization Chamber #7		5 lb						
	General Fugitives	327							
47	Total Ethylene Oxide Emissions	5,151	l Ib						1
48									

	A B	С		D		E	1	F	G	Т	1	1	J	
1	7				1				J					
2	Baxter Healthcare Toxic	Releas	e Ir	nven	tory	,			1/22) operated with d after the scrubbe		atOx and	dry bed	ls after	
3							start		2/25/20 0:0	00	Days			58
4	Site Specific Factors	2020 -	Per	iod 2	<u>.</u>		end		4/22/20 23:5	59	Hours			1392
5	Ethylene Oxide Data								Comments					
7	Ethylene Oxide Used	59,5	70 lb/p	period										
8	Ethylene Oxide Mol. Wt.	44.	.05 lb/l	bmol										
9 10	SN-116 and SN-117 Catalytic Oxidizers								Comments					
11 13	Hours of Operation	1,3	192 hr/p	period						concentrations on the concentration in the concentrations of the concentration of the concentr				
15 16 17 18	So. Oxidizer - Ethylene Oxide Emissions	28,4	.47 ppn 100 scfr 131 lb/h		ne Oxide	Emissi	ons							
19 20 21 22	No. Oxidizer - Ethylene Oxide Emissions	30,8	7.5 ppn 850 scfr 888 lb/h		ne Oxide	Emissi	ons							
23 24 25 26 27	Total Catalytic Oxidizer Emissions to Thermal Oxidiz Thermal Oxidizer Emissions Total Thermal Oxidizer Emissions	0.0	180 lb/h	nr Ethyler nr Ethyler period Eth	ne Oxide	Emissi	ons	s. total						
28	SN-101 Scrubber		, -		.,			,	Commonto					
	Pre-Scrubber Ethylene Oxide	45.0	128 lh F	thylene (	Ovide				Comments					
31 32	Scrubber Control	99.00		Luiyiciic (	SAIGC					m NESHAP Subp amber vents. Sa				018
33 34	Emissions from Scrubber Emissions from dry beds (50% efficiency)			Ethylene ( Ethylene (					Efficiency estin	nated based on per efficiency.	low EO	conc. fe	d to the	beds
35														
36	General Fugitive Emissions	F^ F	70 IL						Comments					
	Ethylene Oxide Used	,	70 lb						EPA factor from	n Federal Regist	er, 12/1	2/2019.	Differer	nt
38	General Fugitive Emissions	0.5	98 lb						ractor used in p	orevious years.				
40			עו טכ.											
41	SN-119 Sterilization Chamber #7 Rear Chamb	er Exhaust							Comments					
42	Ethylene Oxide Vented Per Batch		.23 lb						From 2014 ERI					
43 44 45	Batches Emissions from dry beds (99% efficiency)		29 bate 1 lb	ches					Efficiency base	ery 2 days per 2 d on info from s opm (no upstrea	upplier	(text bo	x) with o	conc.
46	Total Ethylene Oxide Emissions								Comments					
47	SN-101 Scrubber		30 lb											
48	SN-116 and SN-117 CO	1	.12 lb											
49 50	SN-119 Sterilization Chamber #7 General Fugitives	2	1 lb 98 lb											
	Total Ethylene Oxide Emissions		40 lb											

	I A I B	CDE	I F I G I H I I J
1	-		
2	Baxter Healthcare Toxi	c Release Inventory	Period 3 (4/23-6/25) operated with a TO after No. CatOx and dry beds after So. CatOx, scrubber, and chamber #7
3			start 4/23/20 0:00 Days 63.999
4	Site Specific Factors	2020 - Period 3	end 6/25/20 23:59 Hours 15
5	_		
7	Ethylene Oxide Data Ethylene Oxide Used	73,574 lb/period	Comments
8	Ethylene Oxide Mol. Wt.	44.05 lb/lbmol	
9	CN 11C and CN 117 Catalytic Onidians		Comments
10	SN-116 and SN-117 Catalytic Oxidizers		Source for the concentrations emitted from the
<u>11</u>	Hours of Operation	1,536 hr/period	oxidizers is the testing summarized in the pdf on the Period 1 sheet.
13	So. Oxidizer - Ethylene Oxide Emissions	12.47 ppm 28,400 scfm	
15		2.431 lb/hr Ethylene Oxide Emiss	sions
_	Dry Bed Emissions	0.024 lb/hr Ethylene Oxide Emiss	sions
17 18 19	No. Oxidizer - Ethylene Oxide Emissions		
20 21 22	Thermal Oxidizer Emissions	1.588 lb/hr Ethylene Oxide Emiss 0.032 lb/hr Ethylene Oxide Emiss	
23 24	Total Emissions Total Emissions	0.056 lb/hr Ethylene Oxide Emiss 86 lb/period Ethylene Oxide E	
23	Total Emissions		
23 24 25 26	Total Emissions		missions, total
23 24 25 26 27	Total Emissions SN-101 Scrubber	86 lb/period Ethylene Oxide E	missions, total
23 24 25 26 27	Total Emissions  SN-101 Scrubber  Pre-Scrubber Ethylene Oxide  Scrubber Control  Emissions from Scrubber	86 lb/period Ethylene Oxide El	Comments  99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as
23 24 25 26 27 28 29 30 31	Total Emissions  SN-101 Scrubber  Pre-Scrubber Ethylene Oxide  Scrubber Control	86 lb/period Ethylene Oxide El 56,726 lb Ethylene Oxide 99.00%	Comments  99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.
23 24 25 26 27 28 29 30	Total Emissions  SN-101 Scrubber  Pre-Scrubber Ethylene Oxide  Scrubber Control  Emissions from Scrubber	86 lb/period Ethylene Oxide El 56,726 lb Ethylene Oxide 99.00% 567 lb Ethylene Oxide	Comments  99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fe
23 24 25 26 27 28 29 30 31 32	Total Emissions  SN-101 Scrubber  Pre-Scrubber Ethylene Oxide  Scrubber Control  Emissions from Scrubber  Emissions from dry beds (50% efficiency)	86 lb/period Ethylene Oxide El 56,726 lb Ethylene Oxide 99.00% 567 lb Ethylene Oxide	Comments  99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fe to the beds b/c high scrubber efficiency.
23 24 25 26 27 28 29 30 31 32 33 34 35 36	Total Emissions  SN-101 Scrubber  Pre-Scrubber Ethylene Oxide  Scrubber Control  Emissions from Scrubber  Emissions from dry beds (50% efficiency)  General Fugitive Emissions	86 lb/period Ethylene Oxide El 56,726 lb Ethylene Oxide 99.00% 567 lb Ethylene Oxide 284 lb Ethylene Oxide	Comments  99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fe to the beds b/c high scrubber efficiency.
23 24 25 26 27 28 29 30 31 32 33 34 35 36 37	Total Emissions  SN-101 Scrubber  Pre-Scrubber Ethylene Oxide  Scrubber Control  Emissions from Scrubber Emissions from dry beds (50% efficiency)  General Fugitive Emissions  Ethylene Oxide Used  General Fugitive Emissions	86 lb/period Ethylene Oxide El 56,726 lb Ethylene Oxide 99.00% 567 lb Ethylene Oxide 284 lb Ethylene Oxide 73,574 lb 0.5% 368 lb	Comments  99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fe to the beds b/c high scrubber efficiency.  Comments  EPA factor from Federal Register, 12/12/2019. Different factor used in previous years.
23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38	Total Emissions  SN-101 Scrubber Pre-Scrubber Ethylene Oxide  Scrubber Control  Emissions from Scrubber Emissions from dry beds (50% efficiency)  General Fugitive Emissions  Ethylene Oxide Used  General Fugitive Emissions  SN-119 Sterilization Chamber #7 Rear Chamber	86 lb/period Ethylene Oxide El 56,726 lb Ethylene Oxide 99.00% 567 lb Ethylene Oxide 284 lb Ethylene Oxide 73,574 lb 0.5% 368 lb	Comments  99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fe to the beds b/c high scrubber efficiency.  Comments  EPA factor from Federal Register, 12/12/2019. Different factor used in previous years.
23 24 25 26 27 28 29 30 31 32 33 34 35 36 37	Total Emissions  SN-101 Scrubber Pre-Scrubber Ethylene Oxide  Scrubber Control Emissions from Scrubber Emissions from dry beds (50% efficiency)  General Fugitive Emissions  Ethylene Oxide Used  General Fugitive Emissions  SN-119 Sterilization Chamber #7 Rear Chamber	86 lb/period Ethylene Oxide El 56,726 lb Ethylene Oxide 99.00% 567 lb Ethylene Oxide 284 lb Ethylene Oxide 73,574 lb 0.5% 368 lb	Comments  99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fe to the beds b/c high scrubber efficiency.  Comments  EPA factor from Federal Register, 12/12/2019. Different factor used in previous years.
23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43	Total Emissions  SN-101 Scrubber  Pre-Scrubber Ethylene Oxide  Scrubber Control  Emissions from Scrubber Emissions from dry beds (50% efficiency)  General Fugitive Emissions  Ethylene Oxide Used  General Fugitive Emissions  SN-119 Sterilization Chamber #7 Rear Cha Ethylene Oxide Vented Per Batch Batches Emissions from dry beds (99% efficiency)  Total Ethylene Oxide Emissions	86 lb/period Ethylene Oxide El 56,726 lb Ethylene Oxide 99.00% 567 lb Ethylene Oxide 284 lb Ethylene Oxide 73,574 lb 0.5% 368 lb  mber Exhaust 2.23 lb 32 batches 1 lb	Comments  99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fe to the beds b/c high scrubber efficiency.  Comments  EPA factor from Federal Register, 12/12/2019. Different factor used in previous years.  Comments  From 2014 ERM calculations Estimated 1 every 2 days per 2019 operation Efficiency based on info from supplier (text bo with conc. assumed >10 ppm (no upstream)
23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43	Total Emissions  SN-101 Scrubber  Pre-Scrubber Ethylene Oxide  Scrubber Control  Emissions from Scrubber Emissions from dry beds (50% efficiency)  General Fugitive Emissions  Ethylene Oxide Used  General Fugitive Emissions  SN-119 Sterilization Chamber #7 Rear Cha Ethylene Oxide Vented Per Batch Batches Emissions from dry beds (99% efficiency)  Total Ethylene Oxide Emissions  SN-101 Scrubber	86 lb/period Ethylene Oxide El 56,726 lb Ethylene Oxide 99.00% 567 lb Ethylene Oxide 284 lb Ethylene Oxide 284 lb Ethylene Oxide  73,574 lb 0.5% 368 lb  mber Exhaust 2.23 lb 32 batches 1 lb	Comments  99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fe to the beds b/c high scrubber efficiency.  Comments  EPA factor from Federal Register, 12/12/2019. Different factor used in previous years.  Comments  From 2014 ERM calculations Estimated 1 every 2 days per 2019 operation Efficiency based on info from supplier (text bo with conc. assumed >10 ppm (no upstream control).
23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43	Total Emissions  SN-101 Scrubber  Pre-Scrubber Ethylene Oxide  Scrubber Control  Emissions from Scrubber Emissions from dry beds (50% efficiency)  General Fugitive Emissions  Ethylene Oxide Used  General Fugitive Emissions  SN-119 Sterilization Chamber #7 Rear Cha Ethylene Oxide Vented Per Batch Batches Emissions from dry beds (99% efficiency)  Total Ethylene Oxide Emissions  SN-101 Scrubber	86 lb/period Ethylene Oxide El 56,726 lb Ethylene Oxide 99.00% 567 lb Ethylene Oxide 284 lb Ethylene Oxide 73,574 lb 0.5% 368 lb  mber Exhaust 2.23 lb 32 batches 1 lb	Comments  99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fe to the beds b/c high scrubber efficiency.  Comments  EPA factor from Federal Register, 12/12/2019. Different factor used in previous years.  Comments  From 2014 ERM calculations Estimated 1 every 2 days per 2019 operation Efficiency based on info from supplier (text bo with conc. assumed >10 ppm (no upstream control).
23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45	Total Emissions  SN-101 Scrubber Pre-Scrubber Ethylene Oxide  Scrubber Control Emissions from Scrubber Emissions from dry beds (50% efficiency)  General Fugitive Emissions  Ethylene Oxide Used  General Fugitive Emissions  SN-119 Sterilization Chamber #7 Rear Cha Ethylene Oxide Vented Per Batch Batches Emissions from dry beds (99% efficiency)  Total Ethylene Oxide Emissions  SN-101 Scrubber SN-116 and SN-117 CO	86 lb/period Ethylene Oxide El 56,726 lb Ethylene Oxide 99.00% 567 lb Ethylene Oxide 284 lb Ethylene Oxide 73,574 lb 0.5% 368 lb mber Exhaust 2.23 lb 32 batches 1 lb 284 lb 86 lb	Comments  99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fe to the beds b/c high scrubber efficiency.  Comments  EPA factor from Federal Register, 12/12/2019. Different factor used in previous years.  Comments  From 2014 ERM calculations Estimated 1 every 2 days per 2019 operation Efficiency based on info from supplier (text bo with conc. assumed >10 ppm (no upstream control).

	A B	C D E	F G H I J
1	A B		F   G   H   I   J
2	<b>Baxter Healthcare Toxic</b>	Release Inventory	Period 4 (6/26-7/12) operated with dry beds after CatOx and chamber 7 and dry beds after the scrubber
3			start 6/26/20 0:00 Days 16.99999
4	Site Specific Factors	2020 - Period 4	end 7/12/20 23:59 Hours 407.9997
5 6	Ethylene Oxide Data		Comments
7 8	Ethylene Oxide Used Ethylene Oxide Mol. Wt.	29,193 lb/period 44.05 lb/lbmol	
9 10	SN-116 and SN-117 Catalytic Oxidizers		Comments
<u>11</u>	Hours of Operation	408 hr/period	Source for the concentrations emitted from the oxidizers is the testing summarized in the pdf on the Period 1 sheet.
13 14 15	So. Oxidizer - Ethylene Oxide Emissions	12.47 ppm 28,400 scfm 2.431 lb/hr Ethylene Oxide En	nissions
16 17	Dry Bed Emissions	0.024 lb/hr Ethylene Oxide En	nissions
19 20	No. Oxidizer - Ethylene Oxide Emissions	7.5 ppm 30,850 scfm 1.588 lb/hr Ethylene Oxide En	nissions
21 22	Dry Bed Emissions	0.032 lb/hr Ethylene Oxide En	nissions
23	Total Emissions	0.056 lb/hr Ethylene Oxide En	
	Total Emissions	23 lb/period Ethylene Oxid	e Emissions, total
25 26	SN-101 Scrubber		e Emissions, total  Comments
25 26 27 28		23 lb/period Ethylene Oxid 22,508 lb Ethylene Oxide 99.00%	
25 26 27 28 29 30	SN-101 Scrubber Pre-Scrubber Ethylene Oxide Scrubber Control Emissions from Scrubber	22,508 lb Ethylene Oxide 99.00% 225 lb Ethylene Oxide	Comments  99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fed to
25 26 27 28 29 30 31	SN-101 Scrubber Pre-Scrubber Ethylene Oxide Scrubber Control	22,508 lb Ethylene Oxide 99.00%	Comments  99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.
25 26 27 28 29 30 31 32 33	SN-101 Scrubber Pre-Scrubber Ethylene Oxide  Scrubber Control  Emissions from Scrubber Emissions from dry beds (50% efficiency)  General Fugitive Emissions	22,508 lb Ethylene Oxide 99.00% 225 lb Ethylene Oxide	Comments  99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fed to
25 26 27 28 29 30 31 32 33	SN-101 Scrubber Pre-Scrubber Ethylene Oxide  Scrubber Control  Emissions from Scrubber Emissions from dry beds (50% efficiency)	22,508 lb Ethylene Oxide 99.00% 225 lb Ethylene Oxide	Comments  99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fed to the beds b/c high scrubber efficiency.
25 26 27 28 29 30 31 32 33 34 35 36	SN-101 Scrubber Pre-Scrubber Ethylene Oxide  Scrubber Control  Emissions from Scrubber Emissions from dry beds (50% efficiency)  General Fugitive Emissions	22,508 lb Ethylene Oxide 99.00% 225 lb Ethylene Oxide 113 lb Ethylene Oxide	Comments  99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fed to the beds b/c high scrubber efficiency.
28 29 30 31 32 33 34 35 36 37	SN-101 Scrubber Pre-Scrubber Ethylene Oxide  Scrubber Control  Emissions from Scrubber Emissions from dry beds (50% efficiency)  General Fugitive Emissions  Ethylene Oxide Used  General Fugitive Emissions	22,508 lb Ethylene Oxide 99.00% 225 lb Ethylene Oxide 113 lb Ethylene Oxide 29,193 lb 0.5% 146 lb	99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fed to the beds b/c high scrubber efficiency.  Comments  EPA factor from Federal Register, 12/12/2019. Different factor used in previous years.
28 29 30 31 32 33 34 35 36 37 38	SN-101 Scrubber Pre-Scrubber Ethylene Oxide  Scrubber Control  Emissions from Scrubber Emissions from dry beds (50% efficiency)  General Fugitive Emissions  Ethylene Oxide Used  General Fugitive Emissions	22,508 lb Ethylene Oxide 99.00% 225 lb Ethylene Oxide 113 lb Ethylene Oxide 29,193 lb 0.5% 146 lb	99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fed to the beds b/c high scrubber efficiency.  Comments  EPA factor from Federal Register, 12/12/2019.
28 29 30 31 32 33 34 35 36 37 38 39	SN-101 Scrubber Pre-Scrubber Ethylene Oxide  Scrubber Control Emissions from Scrubber Emissions from dry beds (50% efficiency)  General Fugitive Emissions Ethylene Oxide Used  General Fugitive Emissions  SN-119 Sterilization Chamber #7 Rear Cham	22,508 lb Ethylene Oxide  99.00%  225 lb Ethylene Oxide 113 lb Ethylene Oxide  29,193 lb  0.5% 146 lb	99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fed to the beds b/c high scrubber efficiency.  Comments  EPA factor from Federal Register, 12/12/2019. Different factor used in previous years.  Comments
28 29 30 31 32 33 34 35 36 37 38 39 40	SN-101 Scrubber Pre-Scrubber Ethylene Oxide  Scrubber Control  Emissions from Scrubber Emissions from dry beds (50% efficiency)  General Fugitive Emissions  Ethylene Oxide Used  General Fugitive Emissions  SN-119 Sterilization Chamber #7 Rear Cham  Ethylene Oxide Vented Per Batch	22,508 lb Ethylene Oxide  99.00%  225 lb Ethylene Oxide 113 lb Ethylene Oxide  29,193 lb  0.5% 146 lb  ber Exhaust  2.23 lb	99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fed to the beds b/c high scrubber efficiency.  Comments  EPA factor from Federal Register, 12/12/2019. Different factor used in previous years.  Comments  From 2014 ERM calculations Estimated 1 every 2 days per 2019 operation Efficiency based on info from supplier (text box) with conc. assumed >10 ppm (no upstream
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41	SN-101 Scrubber Pre-Scrubber Ethylene Oxide  Scrubber Control  Emissions from Scrubber Emissions from dry beds (50% efficiency)  General Fugitive Emissions  Ethylene Oxide Used  General Fugitive Emissions  SN-119 Sterilization Chamber #7 Rear Cham  Ethylene Oxide Vented Per Batch  Batches	22,508 lb Ethylene Oxide  99.00%  225 lb Ethylene Oxide 113 lb Ethylene Oxide  29,193 lb  0.5% 146 lb  ber Exhaust  2.23 lb 9 batches	99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fed to the beds b/c high scrubber efficiency.  Comments  EPA factor from Federal Register, 12/12/2019. Different factor used in previous years.  Comments  From 2014 ERM calculations Estimated 1 every 2 days per 2019 operation Efficiency based on info from supplier (text box)
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41	SN-101 Scrubber Pre-Scrubber Ethylene Oxide  Scrubber Control  Emissions from Scrubber Emissions from dry beds (50% efficiency)  General Fugitive Emissions  Ethylene Oxide Used  General Fugitive Emissions  SN-119 Sterilization Chamber #7 Rear Cham Ethylene Oxide Vented Per Batch Batches Emissions from dry beds (99% efficiency)	22,508 lb Ethylene Oxide  99.00%  225 lb Ethylene Oxide 113 lb Ethylene Oxide  29,193 lb  0.5% 146 lb  ber Exhaust  2.23 lb 9 batches	99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fed to the beds b/c high scrubber efficiency.  Comments  EPA factor from Federal Register, 12/12/2019. Different factor used in previous years.  Comments  From 2014 ERM calculations Estimated 1 every 2 days per 2019 operation Efficiency based on info from supplier (text box) with conc. assumed >10 ppm (no upstream control).
25 26 27 28 29 30 31 32 33 34 35 36 37 38 40 41 42 43 44 45	SN-101 Scrubber Pre-Scrubber Ethylene Oxide  Scrubber Control  Emissions from Scrubber Emissions from dry beds (50% efficiency)  General Fugitive Emissions  Ethylene Oxide Used  General Fugitive Emissions  SN-119 Sterilization Chamber #7 Rear Cham Ethylene Oxide Vented Per Batch Batches Emissions from dry beds (99% efficiency)  Total Ethylene Oxide Emissions  SN-101 Scrubber SN-101 Scrubber SN-116 and SN-117 CO	22,508 lb Ethylene Oxide  99.00%  225 lb Ethylene Oxide 113 lb Ethylene Oxide  29,193 lb  0.5% 146 lb  ber Exhaust  2.23 lb 9 batches 0.2 lb  113 lb 23 lb	99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fed to the beds b/c high scrubber efficiency.  Comments  EPA factor from Federal Register, 12/12/2019. Different factor used in previous years.  Comments  From 2014 ERM calculations Estimated 1 every 2 days per 2019 operation Efficiency based on info from supplier (text box) with conc. assumed >10 ppm (no upstream control).
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46	SN-101 Scrubber Pre-Scrubber Ethylene Oxide  Scrubber Control  Emissions from Scrubber Emissions from dry beds (50% efficiency)  General Fugitive Emissions  Ethylene Oxide Used  General Fugitive Emissions  SN-119 Sterilization Chamber #7 Rear Cham Ethylene Oxide Vented Per Batch Batches Emissions from dry beds (99% efficiency)  Total Ethylene Oxide Emissions  SN-101 Scrubber SN-101 Scrubber SN-116 and SN-117 CO SN-119 Sterilization Chamber #7	22,508 lb Ethylene Oxide  99.00%  225 lb Ethylene Oxide 113 lb Ethylene Oxide  29,193 lb  0.5% 146 lb  ber Exhaust  2.23 lb 9 batches 0.2 lb  113 lb 23 lb 0 lb	99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fed to the beds b/c high scrubber efficiency.  Comments  EPA factor from Federal Register, 12/12/2019. Different factor used in previous years.  Comments  From 2014 ERM calculations Estimated 1 every 2 days per 2019 operation Efficiency based on info from supplier (text box) with conc. assumed >10 ppm (no upstream control).
28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47	SN-101 Scrubber Pre-Scrubber Ethylene Oxide  Scrubber Control  Emissions from Scrubber Emissions from dry beds (50% efficiency)  General Fugitive Emissions  Ethylene Oxide Used  General Fugitive Emissions  SN-119 Sterilization Chamber #7 Rear Cham Ethylene Oxide Vented Per Batch Batches Emissions from dry beds (99% efficiency)  Total Ethylene Oxide Emissions  SN-101 Scrubber SN-101 Scrubber SN-116 and SN-117 CO	22,508 lb Ethylene Oxide  99.00%  225 lb Ethylene Oxide 113 lb Ethylene Oxide  29,193 lb  0.5% 146 lb  ber Exhaust  2.23 lb 9 batches 0.2 lb  113 lb 23 lb	99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.  Efficiency estimated based on low EO conc. fed to the beds b/c high scrubber efficiency.  Comments  EPA factor from Federal Register, 12/12/2019. Different factor used in previous years.  Comments  From 2014 ERM calculations Estimated 1 every 2 days per 2019 operation Efficiency based on info from supplier (text box) with conc. assumed >10 ppm (no upstream control).

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1	A   B	C D	E	F	G	Н	ı	J
2	Baxter Healthcare Toxic	Release Inventory		d 5 (7/13-8/ a TO after th	4) operated with dr e scrubber	ry beds afte	r CatOx ar	nd chamber 7
3			start		7/13/20 0:00		Days	22.99999
4 5	Site Specific Factors	2020 - Period 5	end		8/4/20 23:59		Hours	551.9997
6	Ethylene Oxide Data				Comments			
7	Ethylene Oxide Used	36,294 lb/period						
8	Ethylene Oxide Mol. Wt.	44.05 lb/lbmol						
9 10	SN-116 and SN-117 Catalytic Oxidizers				Comments			
11	Hours of Operation	552 hr/period			Source for the co oxidizers is the t the Period 1 she	esting sum		
12								
13 14 15	So. Oxidizer - Ethylene Oxide Emissions	12.47 ppm 28,400 scfm 2.431 lb/hr Ethylene Oxide						
17	Dry Bed Emissions	0.024 lb/hr Ethylene Oxide	e Emissions					
18 19 20	No. Oxidizer - Ethylene Oxide Emissions	7.5 ppm 30,850 scfm 1.588 lb/hr Ethylene Oxide						
21 22	Dry Bed Emissions	0.032 lb/hr Ethylene Oxide	e Emissions					
23 24	Total Emissions Total Emissions	0.056 lb/hr Ethylene Oxide 31 lb/period Ethylene Oxide		s, total				
25		7,1		,				
	SN-101 Scrubber Pre-Scrubber Ethylene Oxide	27,983 lb Ethylene Oxide			Comments			
	Scrubber Control	99.00%			99% figure from sterilization chan for 2018 RY.			
29								
30	Emissions from Scrubber Emissions from thermal oxidizer (98% efficiency)	280 lb Ethylene Oxide 6 lb Ethylene Oxide			Efficiency estimate to the beds b/c h			
32	General Fugitive Emissions				Comments			
	Ethylene Oxide Used	36,294 lb			Comments			
35 36	General Fugitive Emissions	0.5% 181 lb			EPA factor from Different factor (			
37								
	SN-119 Sterilization Chamber #7 Rear Cham				Comments			
	Ethylene Oxide Vented Per Batch Batches Emissions from dry beds (99% efficiency)	2.23 lb 12 batches 0.3 lb			From 2014 ERM Estimated 1 ever Efficiency based	ry 2 days p	er 2019 o	
42					with conc. assun control).	ned >10 p	pm (no up	stream
	Total Ethylene Oxide Emissions				Comments			
44	SN-101 Scrubber	6 lb						
45	SN-116 and SN-117 CO	31 lb						
46	SN-119 Sterilization Chamber #7 General Fugitives	0 lb 181 lb						
	Total Ethylene Oxide Emissions	218 lb						

_	A B	C D	E	F	G	Н		J			
2	Baxter Healthcare Toxic	Release Inventory		Period 6 (8/5-8/2 the north oxidize	24) operated as period 5 did but with new catalyst in er						
3				start	8/5/20 0:00	Da	ays	19.99999			
4 5	Site Specific Factors	2020 - Period 6		end	8/24/20 23:59	Ho	ours	479.9997			
6	Ethylene Oxide Data				Comments						
7	Ethylene Oxide Used	23,670 lb/period									
8	Ethylene Oxide Mol. Wt.	44.05 lb/lbmol									
9	SN-116 and SN-117 Catalytic Oxidizers				Comments						
10	SN-116 and SN-117 Catalytic Oxidizers					ncontrations	omittoe	I from the			
12	Hours of Operation	480 hr/period			Source for the concentrations emitted fr south oxidizers is the testing summarize pdf on the Period 1 sheet.						
13 14 15 16	So. Oxidizer - Ethylene Oxide Emissions  Dry Bed Emissions	12.47 ppm 28,400 scfm 2.431 lb/hr Ethylene Oxic 0.024 lb/hr Ethylene Oxic									
17 18 19 20 21	No. Oxidizer/Dry Bed Ethylene Oxide Emissions	0.003 ppm 30,850 scfm 0.001 lb/hr Ethylene Oxio	de Emissior	ns	Dave Miller indicated that Montrose sampled the stack from the North Cat Ox & Dry Bed train in April 2021 and found ethylene oxide to be non-detect. The detection limit was 6 ppb. We use half the detection limit.						
22 23 24	Total Emissions Total Emissions	0.025 lb/hr Ethylene Oxio 12 lb/period Ethylene									
25	Total Emissions	12 IS/ period Edifficite	OXIGE EITH	5510115, total							
26	SN-101 Scrubber				Comments						
28	Pre-Scrubber Ethylene Oxide Scrubber Control	18,250 lb Ethylene Oxide 99.00%			99% figure from NESHAP Subpart O standard for sterilization chamber vents. Same factor as used for 2018 RY.						
29 30	Funicaiona fuera Comulaban	192 lb Ethylana Ovida			Cfficion au continua		Janu FO	aana fad			
31	Emissions from Scrubber Emissions from thermal oxidizer (98% efficiency)	182 lb Ethylene Oxide 4 lb Ethylene Oxide			Efficiency estima to the beds b/c h						
32	· ·	= /			•		Ciricici	,.			
	General Fugitive Emissions	22.670.8			Comments						
35 36	Ethylene Oxide Used General Fugitive Emissions	23,670 lb 0.5% 118 lb			EPA factor from Different factor u						
37	CN 440 Charillandian Chamban #7.7										
38	SN-119 Sterilization Chamber #7 Rear Chaml Ethylene Oxide Vented Per Batch	2.23 lb			Comments From 2014 ERM	calculations					
40 41 42	Batches Emissions from dry beds (99% efficiency)	10 batches 0.2 lb			Estimated 1 ever Efficiency based with conc. assun control).	y 2 days per on info from	supplier	(text box)			
	Total Ethylene Oxide Emissions				Comments						
45 46	SN-101 Scrubber SN-116 and SN-117 CO SN-119 Sterilization Chamber #7	4 lb 12 lb 0 lb									
	General Fugitives Total Ethylene Oxide Emissions	118 lb 134 lb									

	Α	В		C		D	E	F		G	Н	1		.1
1	7		-					'					l .	
2	<b>Baxter Healthcare</b>	Toxic	Rel	eas	e In	vent	ory	Period 7 (8/2 the south oxi		) operated as p well	eriod 6 did b	ut with r	iew cata	yst in
3								start		8/25/20 0:0	0	Days		129
4	Site Specific Factors	;	20	20 -	Per	iod 7		end		12/31/20 23:5	9	Hours		3096
5 6	Ethylene Oxide and Ethylene Glyc	ol Data							Co	mments				
7	Ethylene Oxide Used				690 lb/p									
9	Ethylene Oxide Mol. Wt.			44	1.05 lb/ll	omol								
_	SN-116 and SN-117 Catalytic Oxid	dizers							Co	mments				
11 12	Hours of Operation			3,	096 hr/p	period								
13	so. Oxidizer/Dry Bed Ethylene Oxide E	missions		0.0	003 ppn	n								
14					400 scfn									
15 16				0.0	001 lb/h	ir Ethylen	e Oxide Emi	issions		Dave Miller inc				
17										the stack from in April 2021 a				IS
	No. Oxidizer/Dry Bed Ethylene Oxide E	missions		0.0	003 ppn	n				non-detect. Th				
19	. , ,			30,	850 scfn	n				use half the de				
20				0.0	001 lb/h	r Ethylen	e Oxide Emi	issions						
21														
23	Total Emissions			0.0	001 lb/b	r Ethylen	e Oxide Emi	issions						
24	Total Emissions			0.				Emissions, total						
25							,	•						
	SN-101 Scrubber								Co	mments				
27	Pre-Scrubber Ethylene Oxide			94,	594 lb E	thylene C	xide		000	/ 6 m 6 m	NECLIAD C.	h		.d 60
										% figure from rilization cham				
28	Scrubber Control			99.0	0%					l8 RY.	iber veries.	Janne Ta	ctor as t	15CG 101
29														
	Emissions from Scrubber	· · · · · ·				thylene C			Efficiency estimated based on low EO conc. fed to the beds b/c high scrubber efficiency.					
31	Emissions from thermal oxidizer (98%	efficiency)			19 lb E	thylene C	xide		the	beds b/c high	n scrubber e	efficiency	/.	
32	General Fugitive Emissions								Co	mments				
	Ethylene Oxide Used			122,	690 lb									
									EPA	A factor from F	ederal Reg	ster, 12	/12/201	9.
35	General Fugitive Emissions			0.	5%				Diff	ferent factor u	sed in previ	ous yea	rs.	
36	-			(	613 lb									
37									_	_				
	SN-119 Sterilization Chamber #7	Rear Cham	ber Ex		2.23 lb					mments				
39 40	Ethylene Oxide Vented Per Batch Batches			2	2.23 lb 65 bato	ches				m 2014 ERM of imated 1 even		r 2019 c	neration	1
	Emissions from dry beds (99% efficien	icy)			1 lb					ciency based				
	, (	.,							wit	h conc. assum				
42	Total Ethylene Oxide Emissions									ntrol). mments				
	SN-101 Scrubber				19 lb									
45	SN-116 and SN-117 CO				4 lb									
	SN-119 Sterilization Chamber #7				1 lb									
	General Fugitives				613 lb									
48	Total Ethylene Oxide Emissions				638 lb									